

REMARKS

This amendment is submitted in an earnest effort to bring this case to issue without delay.

Applicant has amended claim 7, line 18, to insert after "inlet opening" - located at least in part above the fixed bed of granular fuel -. See element 15 in Figures 1,2 and 3 and page 3, last paragraph of the specification for antecedent basis.

The Examiner has not filed an answer to the appeal brief that we filed on 9 March 2005. Instead the Examiner has conducted an additional search of the prior art and has found one new reference: U.S. Patent 4,146,369 to FLESCH et al. The Examiner has combined the PRIESTLEY, MAYERS and ANGELL reference as applied before in combination with FLESCH et al to reject all claims as obvious under 35 USC 103. This rejection is a new rejection in view of the FLESCH et al reference.

Applicant does not believe that the Examiner's citation and application of the FLESCH et al reference changes the merits of this application. Just as there is no suggestion in PRIESTLEY, MAYERS and ANGELL of providing within a fixed bed reactor used to gasify solid fuels, a centrifugal separator, such as a cyclone, to separate out solids from the product gas, where the centrifugal separator is at least partially surrounded by a fixed bed of the solid fuel, there is no suggestion of same to be found anywhere in FLESCH et al. The Examiner appears to have cited FLESCH et al

because it discloses a process to gasify solid fuel that uses both a fixed bed stage and a fluidized bed stage to gasify the fuel. The Examiner seems to believe that FLESCH et al equates the fixed bed and the fluidized bed stages for gasifying the solid fuel and so combining FLESCH et al with the primary references such as MAYERS and PRIESTLEY renders the present process obvious.

On page 4 of the office action the Examiner indicates that it is conventional in the gasification of solid fuels to use a fixed bed process for gasifying larger particles of the fuel and a fluidized bed process for gasifying the small particles of fuel. Even though the Examiner mentions "selecting a larger size gasification medium will allow the gasifier system to operate as a "fixed bed", and/or selecting a smaller size gasification medium will allow the gasifier to operate as a "fluidized bed", Applicant believes that what the Examiner really means is a larger particle size of granular fuel for the fixed bed process and a smaller size granular fuel for the fluidized bed process. The Examiner seems to conclude that it would be obvious to gasify a larger particle size of fuel by modifying the PRIESTLEY and MAYERS fluidized bed processes to fixed bed processes thereby arriving at the present invention. The Examiner acknowledges on page 6 of the office action that Applicant alone discloses centrifugal separators at least partially surrounded by a fixed bed of the solid fuel and that none of the cited references, including FLESCH et al discloses same, but argues that Applicant's location of the centrifugal

separator partially surrounded by the fixed bed of granular fuel, is nothing more than mere optimization, and would be obvious to those "skilled in the art."

Applicant agrees only that it is known in the art to use a fixed bed reactor for gasifying the larger particles of solid fuel and a fluidized bed reactor for gasifying the smaller size particles of solid fuel. This is disclosed in FLESCH et al and elsewhere. However, Applicant finds nothing in FLESCH et al that is at all suggestive of carrying out the gasification of a solid fuel in a fixed bed reactor to obtain a product gas which is then passed through a centrifugal separator to remove any particles of solid fuel therein where the centrifugal separator is at least partially surrounded by the fixed bed of granular fuel. The FLESCH et al process is actually a three stage process for gasifying a solid fuel that includes a fixed bed stage (1), a fluidized bed stage (2) above stage (1) and a dust gasification stage (3) above stage (2). The granular fuel is fed into the fluidized bed stage and the larger fuel particles that are too large for the fluidized bed are allowed to drop below to the fixed bed stage where they are gasified. The smaller particles are gasified in the fluidized bed stage. Any small particles not gasified in stages (1) and (2) rise to stage (3) where they are gasified so that the resulting product gas is free from solid particles. Such a process is not at all suggestive of Applicant's process which uses only a fixed bed gasification and which uses a centrifugal separator at least

partially surrounded by the fixed bed of granular fuel to remove solid particles from the product gas.

At the top of page 4 of the office action the Examiner has argued that Applicant has not defined what constitutes a "fixed bed". Applicant believes that both "fixed bed" as opposed to "fluidized bed" are terms well known in the art and includes an excerpt from the Van Nostrand's Scientific Encyclopedia, Considine et al, clearly showing the established difference between a fixed bed and a fluidized bed. However, it appears that the Examiner is really questioning the scope of the materials that constitute the granular fuels that comprise Applicant's fixed bed, rather than the scope of the term "fixed bed." The Examiner quotes page 3 of the specification where Applicant states: "As fuel all kinds of coal are used including lignite and peat, to which various waste substances may be added." The Examiner appears to object to "waste substances." The Examiner is being hyper technical. There is no requirement that the granular fuel be 100% pure coal. Often solid fuels are obtained mixed with waste substances such as peat or lower grades of coal such as lignite. So long as the Applicant is gasifying a granular fuel, it does not matter whether the granular fuel contains waste material and if it does, what is the identity of the waste material.

There is no suggestion in any of PRIESTLEY, MAYERS, ANGELL and/or FLESCH of the presently claimed apparatus for gasifying granular fuels wherein the apparatus includes as a

distinct structural element, at least one centrifugal separator in said casing and at least partially surrounded in said bed for separating solids from the product gas, having an inlet opening located at least in part above the fixed bed of granular fuel for dust-laden product gas coming from the fixed bed of granular fuel

Favorable action is earnestly solicited.

Respectfully submitted,
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Enclosure: Van Nostrand's Scientific Encyclopedia,
Considine, p. 1204 (1983).